

ACTIVE HIGH PRECISION ISOLATION AMPLIFIER

MILLIVOLT-CLASS POSITIVE AND NEGATIVE
SIGNAL INPUT & POSITIVE AND NEGATIVE
SIGNAL OUTPUT

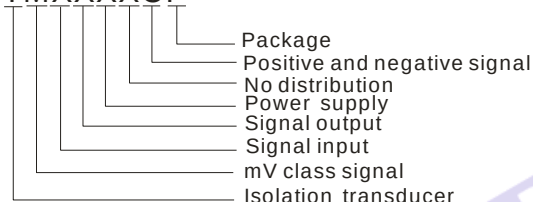
——TMxxxxCP



RoHS

PART NUMBER SYSTEM

TMXXXXCP



FEATURES

- Four-port isolation (Signal input, Signal output, power supply and isolation power output)
- High accuracy (0.1% F.S.)
- High linearity (0.1% F.S.)
- Isolation voltage (2.5KVDC/60s)
- Extremely low temperature drift (35PPM/°C) Industry standard (Operating temperature range: -25°C ~ 71°C)
- High reliability (MTBF > 500,000 hours)

GENERAL DESCRIPTION

The TMxxxxCP series isolation amplifier modules have a millivolt-class positive and negative signal input and positive and negative signal output. These modules, with a high efficiency micro-power source built-in, can provide power for signal processing circuit. In the three-wire and four-wire transmitter applications, our products make customers' design simple and helpfully improve the room-using ratio of PCB. Adopting electromagnetism isolation technology, it is available to keep higher accuracy and extremely lower temperature drift than photocoupler isolation. These modules have three-port isolation (input, output and power supply), and the isolation voltage between them is up to 2.5KVDC.

SELECTION GUIDE

Model	Power Supply	Input Signal	Output Signal	Channels
TM1630CP	24V	±10mV	±5V	1
TM2630CP	24V	±20mV	±5V	1
TM4630CP	24V	±50mV	±5V	1
TM5630CP	24V	±75mV	±5V	1
TM6630CP	24V	±100mV	±5V	1
TM7650CP	12V	±200mV	±5V	1
TM4530CP	24V	±50mV	±10V	1
TM5530CP	24V	±75mV	±10V	1
TM6530CP	24V	±100mV	±10V	1

Note: We could also offer customer design for special input and output as follow:

Power supply: 24/15/12VDC;

Input signal: 0~±10/±20/±30/±50/±75/±100mV;

Output signal: 0~±5V/±10V.

ELECTRICAL CHARACTERISTICS

Power Supply	Power supply	(Nominal power supply) ±5%
	Input consumption	≤1W
	Power protection	Reverse protection
Signal Input	Input signal	See product program
	Input Impedance	≥10MΩ (@max input signal)
	Overload	≤10V
Signal Output	Output signal	See product program
	Load capacity	≥2KΩ (@max Output)

TRANSMISSION CHARACTERISTICS

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Zero Offset	0.1%F.S.
Gain Error	0.1%F.S.
Temperature Drift	$\geq 50\text{mV}$: 0.0035%F.S./ $^{\circ}\text{C}$ $< 50\text{mV}$: 0.0050%F.S./ $^{\circ}\text{C}$ (-25 ~ +71 $^{\circ}\text{C}$)

ISOLATION CHARACTERISTICS

Galvanic Isolation	Three-port isolation (Input, output and power supply)
Isolation Voltage	2.5kVDC (tested for 1 minute, leakage current<1mA and humidity < 70%)
Insulation Resistance	100M Ω , 500VDC(between input, output and power supply)

OTHER CHARACTERISTICS

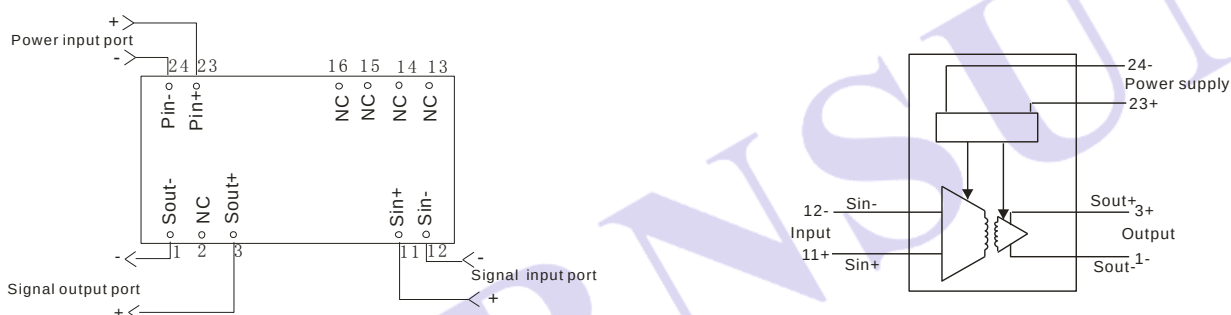
Ambient temperature	Operation temperature: -25 ~ +71 $^{\circ}\text{C}$
	Transport and Storage temperature: -50 ~ +105 $^{\circ}\text{C}$
Package	DIP24
Weight	10g,typ
Application environment	No dust, fierce vibration, impulsion and corrosive gas

Note:1.All specifications measured at $T_A=25^{\circ}\text{C}$, humidity<75%, nominal input voltage and rated output load unless otherwise specified.

2.Only typical models listed, specifications of custom product may be different. Please contact our service people directly for certain conditions;

3.In this datasheet, all the test methods of indications are based on corporate standards.

APPLICATION CIRCUIT DIAGRAM & SCHEMATIC DIAGRAM



APPLICATION NOTE

1. Please read the user manual carefully before using. If any question please contact our FAE.
2. Please do not use this product in hazardous area.
3. The power supply of this product should be 24VDC power source. It is forbidden to use 220VAC power supply.
4. To avoid invalid explosion protection function, or any failure, disassembling this product is forbidden.

AFTER-SALES SERVICE

1. Products are carefully inspected and quality controlled during production and before shipment. If they operated abnormally or there was anything wrong, please contact our agent from which you purchased or MORNSUN FAE as soon as possible.
2. MORNSUN warranty our product for 3 years from manufacturing date. During this period, MORNSUN will repair or replace the product if product was found to have manufacturing defect.

APPLICATION CIRCUIT

You can see "A APPLICATION GUIDE TO ISOLATION TRANSMITTER"

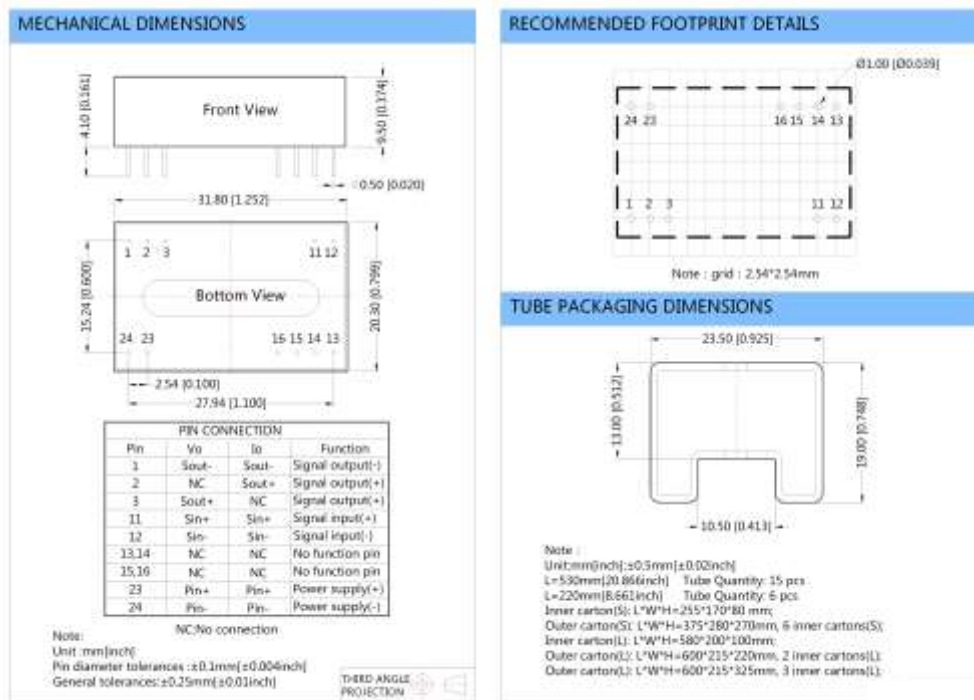
OUTLINE DIMENSIONS,RECOMMENDED FOOTPRINT&PACKAGING

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Note:

1. All specifications are measured at $T_a=25^\circ\text{C}$, humidity<75%, nominal input voltage and rated output load unless otherwise specified.
2. In this datasheet, all the test setup and methods are based on our corporate standards.
3. All characteristics are meant for listed model, non-standard models may perform differently, Please contact our technical support for more detail.
4. Contact us for your specific requirement.
5. Specifications are subject to change without prior notice.

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